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VIDEO SUBMISSION

Endoscopic Tunneled Stricturotomy with Full-Thickness Dissection in the Management of a Sleeve Gastrectomy Stenosis

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Abstract

Introduction Laparoscopic sleeve gastrectomy is becoming the most commonly performed bariatric surgery. Despite clinical efficacy, adverse events have gradually increase due to its rapid adoption. Sleeve stenosis is the second most common adverse event, occurring in 0.7 to 4% of patients undergoing laparoscopic sleeve gastrectomy (LSG). Endoscopic management with pneumatic balloon dilation (PBD) or stent placement is commonly performed, with a success rate of up to 88%. Recently, Moura et al. (VideoGIE 4(2):68–71, 2018) described a new technique, named as endoscopic tunneled stricturotomy. In this video, we demonstrated the evolution of this technique including full-thickness dissection with staple line disruption.

Methods A 28-year-old woman with a BMI of 35.3 kg/m^2 who underwent LSG, presented with dysphagia to solid food. An upper GI series showed a stenosis at the level of the incisura angularis. The patient was then referred for endoscopic evaluation.

Results She underwent three endoscopic PBD in an attempt to treat the stenosis. Unfortunately, her symptoms did not improve. After failed PBD treatment, an endoscopic tunneled stricturotomy with full-thickness dissection was performed. The procedure is performed in 6 steps: (1) identification of the stenosis, (2) submucosal injection 3–5 cm before the stenosis, (3) incision, (4) submucosal tunneling, (5) stricturotomy with full-thickness dissection, and (6) mucosal closure. During follow-up, the patient maintained a 1200-cal diet, without recurrence of symptoms.

Conclusion Endoscopic tunneled stricturotomy with full-thickness dissection is feasible and appears to be safe and effective in the management of stenosis after sleeve gastrectomy. This procedure may be an option after conventional treatment failure or may be considered as a primary alternative.

Keywords Endoscopy · Obesity · Bariatric · Surgery · Stenosis · Sleeve · Dilation · Tunneled · Stricturotomy · Full-thickness · Dissection

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Introduction

Obesity is a pandemic and bariatric surgery is the most effective treatment modality. Laparoscopic sleeve gastrectomy (LSG) is becoming the most commonly performed bariatric surgery. Despite clinical efficacy, adverse events have gradually increase due to its rapid adoption [1]. Sleeve stenosis is the second most common adverse event, occurring in 0.7 to 4% of patients undergoing LSG. Stenosis is caused by two different mechanisms: mechanical stenosis and axial deviation. Endoscopic management with pneumatic balloon dilation (PBD) or stent placement is commonly performed, with a success rate of up to 88%, although multiple treatment sessions are often required [2]. Recently, Moura et al. described a new technique, named as endoscopic tunneled stricturotomy [3]. In this video, we demonstrated the evolution of this technique including full-thickness dissection with staple line disruption.

Material and Methods

A 28-year-old woman with a BMI of 35.3 kg/m^2 (weight 94 kg), who underwent LSG, presented with dysphagia to solid food. During the first month post-surgery, she was doing well tolerating a liquid diet. However, when her diet was advanced to solid food, she developed food regurgitation and vomiting. An upper GI series was performed, and a stenosis at the level of the incisura angularis was diagnosed. The patient was then referred for endoscopic evaluation.

Results

She underwent three endoscopic PBD in attempt to treat the stenosis. Unfortunately, her symptoms did not improve, and she lost 30 kg in 5 months (BMI 24 kg/m^2). After failed PBD treatment, an endoscopic tunneled stricturotomy with full-thickness dissection was performed. The procedure is performed in six steps: (1) identification of the stenosis, (2) submucosal injection approximately 3–5 cm before the stenotic area, (3) incision, (4) submucosal tunneling, (5) stricturotomy with full-thickness dissection, and (6) mucosal closure. During follow-up, the patient maintained a 1200-cal diet, without recurrence of symptoms.

Conclusion

Endoscopic tunneled stricturotomy with full-thickness dissection is feasible and appears to be safe and effective in the management of stenosis after sleeve gastrectomy. This novel procedure may be an option after conventional treatment failure or may be considered as a primary alternative. More studies are necessary to prove its long-term efficacy.

Compliance with Ethical Standards

Conflict of Interest Eduardo Guimarães Hourneaux de Moura: Consultant for Boston Scientific and Olympus.

Christopher C. Thompson reports fee as a consultant for Boston Scientific, USGI Medical, Olympus, Fractyl Labs, and Apollo Endosurgery.

All other authors declare that they have no conflict of interest.

Ethical Approval Institutional Review Board of the Hospital approved the study. Informed consent was obtained from the participant included in the study.

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